



"THE FA BATTALION TOC"



WARGAMING "How to..."G





ORDER OF BRIEF



FUNDAMENTALS

WHAT DO I BRING TO THE TABLE?

STEPS

1. Gather the Tools
2. List all Friendly Forces (FA Plts & Batteries)
3. List Assumptions
4. List EFSTs and EFATs
5. Determine Evaluation Criteria
6. Select the War-Game Method
7. Select a Recording Technique
8. How to War-Game the Battle
 - Wargame Script
 - Synch Matrix Technique
 - Checklists

SUMMARY



FUNDAMENTALS



WHY?

- MAXIMIZE COMBAT POWER
- COMMON STAFF VISION OF THE BATTLE
- ANTICIPATE BATTLEFIELD EVENTS
- DETERMINE CONDITIONS & RESOURCES FOR SU
- FOCUS ON KEY ENEMY
- PRODUCE SYNCHRONIZED RESULTS
- DETERMINE BEST COURSE OF ACTION





FUNDAMENTALS



RULES...

- **REMAIN OBJECTIVE**
- **RECORD DISADVANTAGES & ADVANTAGES ACCURATELY**
- **ASSESS - FEASIBILITY, SUITABILITY, AND SUITABILITY**
- **AVOID PREMATURE CONCLUSIONS**
- **AVOID COMPARISON**





WHAT DO I BRING TO THE TABLE?



BATTALION COMMANDER

- DRIVES THE ENTIRE FA-MDMP
- ADDITIONAL CLEAR/CONCISE GUIDANCE
- DIRECTS, REJECTS, APPROVES COAs
- GIVES FOCUS AND SPECIFICS TO THE 2IC





WHAT DO I BRING TO THE TABLE?



BATTALION XO

- **SECOND IN COMMAND/CHIEF OF STAFF**
- **COORDINATING ACTIONS OF THE STAFF**
- **ENSURE SYNCHRONIZATION OF THE STAFF**
- **PRIMARY INTEGRATOR OF CSS**
- **ENSURES THAT THE PLAN MEETS THE COMMANDER'S INTENT**
- **LOGISTICS DECISION MAKER**
- **ISSUES RESUPPLY GUIDNACE**
- **RESOLVE ALL DECISIONS / CONFLICTS**





WHAT DO I BRING TO THE TABLE?



BATTALION S3

- **SELECTS WARGAMING METHOD AND TECHNIQUE**
- **ENSURES WARGAME COVERS EVERY OPERATIONAL ASPECT**
- **ANNOTATES RATIONALE FOR COMPARISON LATER**
- **UNDERSTANDS BDE MANEUVER PLAN**
- **VERIFIES THAT COMMANDER'S INTENT IS MET**
- **DETERMINES DECISION POINTS**
- **BLUE FORCE ARTILLERY COMMANDER**
- **ISSUES PRIORITIES**
- **ENSURES THAT STAFF MEMBERS REMAIN OBJECTIVE**
- **MASTER OF THE WARGAMING SCRIPT**
- **MONITORS RISK ASSESSMENT**





WHAT DO I BRING TO THE TABLE?



BATTALION FDO

- MONITORS AMMO COMUMPITION
- MAINTAINS EFFECTS MATRIX
- MAINTAINS CURRENT
 - SCHEME OF FIRES
 - TARGETS, GEOMETRY, BN SFO
- DECONFLICTS TIMES FOR INTEGRATION OF SURVEY, MET, SAFETY
- ASSESSES BATTALION FIRING
 - TIME STANDARDS - SUTOMATED/DEGRADED
 - ACCURACY STANDARDS
 - SHIFY TIMES
- IDENTIFY DELIVERY CONFLICTS
- RECOMMENDS TACTICAL/TECHNICAL EMPLOYMENT CONSIDERATIONS

• SPECIAL MUNITIONS -
SMOKE CRPD FASCAM





WHAT DO I BRING TO THE TABLE?



BATTALION ASSISTANT S3

- **SYNCH MATRIX RECORDER**
- **BLUE MANEUVER COMMANDER**
- **MONITOR FFIR / EEFI REQUIREMENTS**
- **DECONFLICT MET REQUIREMENTS**
- **DEVELOPS SURVIVABILITY MOVE MATRIX IN CONJUNCTION WITH THE S2**
- **TRACKS SURVIVABILITY MOVES**
- **FRIENDLY MOVEMENT / EMPLACEMENT / READY TO FIRE TIMES**
- **RECOMMEND SURVIVABILITY MOVE CRITERIA**





WHAT DO I BRING TO THE TABLE?



BATTALION S4

- **BN R3SP TIME STANDARD**
- **RESUPPLY TIME STANDARDS - CL I & III**
- **RESUPPLY RTS AND TIME ESTIMATION ALONG ROUTES FOR CL I, III, MAINT, MED**
- **RECOMMEND RESUPPLY TRIGGERS**
- **AXP LOCATIONS AND TIME ACTIVE**
- **MEDEVAC AVAILABILITY AND TIME STD FOR GROUND / AIR**
- **EPW PROCEDURES**
- **ANY SUPPORT SHORTFALLS**





WHAT DO I BRING TO THE TABLE?



BATTALION S2

- THE ENEMY COMMANDER / TRY TO WIN THE WARGAME
- MAINTAINS OB AND ENEMY KILL CHARTS
- COUNTERFIRE BATTLE DILL TIME
 - ENEMY FIRE TO ACQ
 - TOC CF DRILL
 - TIME RDS ON TGT
- PREDICTIVE ANALYSIS SCHEME
- ENEMY CAPABILITIES
 - EMPLACE/DISPLACE TIMES
 - RATE OF FIRE
 - AMMO AVAILABLE
 - ACQUISITION ABILITY
- FRIENDLY RADAR
 - ACQUISITION ABILITY
 - SURVIVABILITY MATRIX
 - RADAR DEPLOYMENT ORDER
- W/ZONES
 - MOVEMENT TIMES
- DETERMINES EFFECTS FACTORS
 - EFFECTS MATRIX - ARTY
 - COFM 2S19/2S1/2S3
 - TERRAIN/WEATHER/LIGHT DATA





WHAT DO I BRING TO THE TABLE?



BATTALION AMMO OFFICER

- ENSURES PROPER MIX OA AMMO IS ON HAND TO ACCOMPLISH EFATs
- CURRENT AMMO ON HAND / PROPOSED AND LOCATIONS
 - CAT
 - FAT
 - PLS
 - CACHE
- STANDARD PLS CONFIGURATIONS
 - OFFENSE
 - DEFENSE
- MOVEMENT TIMES
- FAT TO CAT
- CAT TO BATTERIES
- AMMO RESUPPLY TIMES
 - UPLOAD
 - DOWNLOAD





WHAT DO I BRING TO THE TABLE?



BATTALION SIGNAL OFFICER

- **DEVELOPS COMMO SITE OVERLAY**
- **RECOMMENDS COUNTERMEASURES**
- **RECOMMENDS PROPOSED FUTURE TOC LOCATIONS**
- **TIME FACTORS FOR**
 - **RETRANS SET-UP**
 - **MOVEMENT**
 - **COMSEC CHANGEOVVER**





WHAT DO I BRING TO THE TABLE?



BATTALION RSO

- **RESOLVED / UNRESOLVED ISSUES RECORDER**
- **MAINTAINS DATA AND FACTORS ON ALL SURVEY**
 - **MOVEMENT FACTORS**
 - **SURVIVABILITY**
 - **EMPLACEMENT TIMES**
 - **UPDATES / 30-DAY BIAS**
 - **MASTER / SIMO STATION TIME**





WHAT DO I BRING TO THE TABLE?



RADAR TECH

- CONDUCT THREAT ASSESSMENT TO RADAR
- SURV MOVE TOTAL TIME
- REPOSITION MOVE TOTAL TIME
- TRACK TOTAL RADIATION TIME
- TOTAL TIME TO ACQUIRE / TRANSMIT
ACQUISITION
- ZONE DECONFLICTION
- RECOMMEND MOVEMENT TRIGGERS BASED
ON
 - FRIENDLY SITUATION
 - TOTAL RAD TIME
 - ENEMY PHASE OF FIRE
- RECOMMEND OPTIMAL POSITIONING
- PREPARE SURVIVABILITY MATRIX





WHAT DO I BRING TO THE TABLE?



BATTALION CHEMICAL OFFICER

- ENEMY CHEMICAL THREAT ASSESSMENT AND LIKELY STRIKE LOCATIONS
- RECOMMEND MOPP STATUS
- FACTORS AFFECTING SMOKE OPERATIONS
- CURRENT CHEMICAL DOWNWIND MESSAGE
- DECON SITE LOCATIONS - PROPOSED / ACTUAL
- TRAVEL TIME FROM PA / PZ TO DECON SITE
- SET-UP TIME FOR DECON SITE
- TOTAL TIME TO DECON
- OPERATIONAL THOROUGH

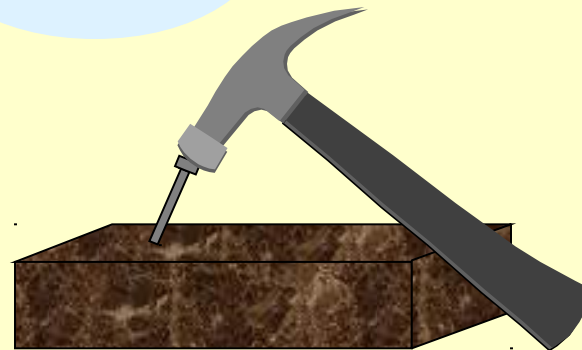
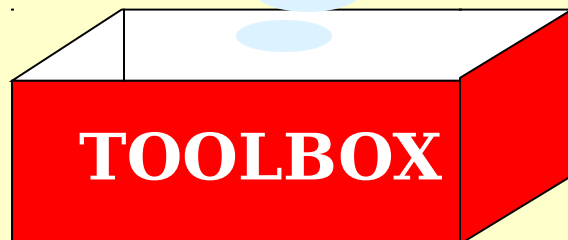




STEP 1 - GATHER THE TOOLS



- **MOST CURRENT STAFF ESTIMATES**
- **EVENT TEMPLATE**
- **DECISION SUPPORT TEMPLATE**
- **RECORDING METHOD**
- **COMPLETED COA OVERLAYS**
- **ENEMY AND FRIENDLY UNIT SYMBOLS**
- **AREA OF OPERATIONS MAP**

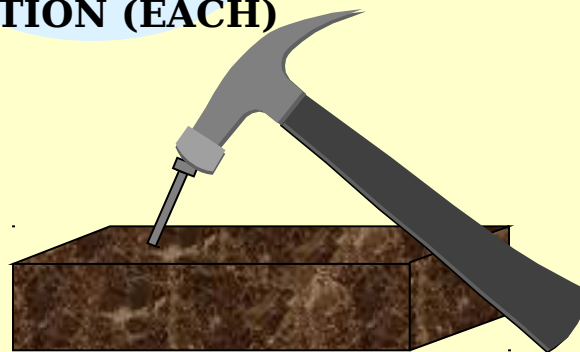
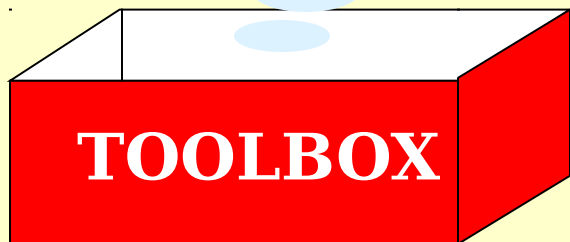




GATHER ADDITIONAL TOOLS



- WARGAMING SCRIPT
- SURVIVABILITY MATRIX
- MOVEMENT TIMES
- MET SCHEDULE
- JMEMs EFFECTS MATRIX
- FIRING TIME STANDARDS
- AMMO TRACKING CHART
- ENEMY CPABILITIES MATRIX
- COMMO SITE OVERLAY
- RADAR SURVIVABILITY MATRIX
- AREA SET-UP
- OVERLAYS
 - MANEUVER WITH OBSTACLES
 - POSITION AREA
 - TARGETS
 - INTELLIGENCE
 - COURSE OF ACTION (EACH)





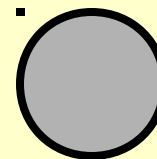
GATHER THE TOOLS



HEATER

INTELLIGENCE PLANS
MAP 1:50,000
WITH WINGBOARDS

AREA SET-UP
OPERATIONS SERGEANT



STORAGE
AREAS
-OVERLAYS
-PENS
-PAPER

RSO
(ISSUES RECORDER)

BAO

S4

XO

S3

FDO

RADAR

CESO

CHEMO

CHART
PAPER

S2 (OPFOR)

OPERATIONS PLANS
MAP 1:50,000
WITH WINGBOARDS

A/S3 (BLUEFOR)
(MATRIX RECORDER)

EVENT
MATRIX

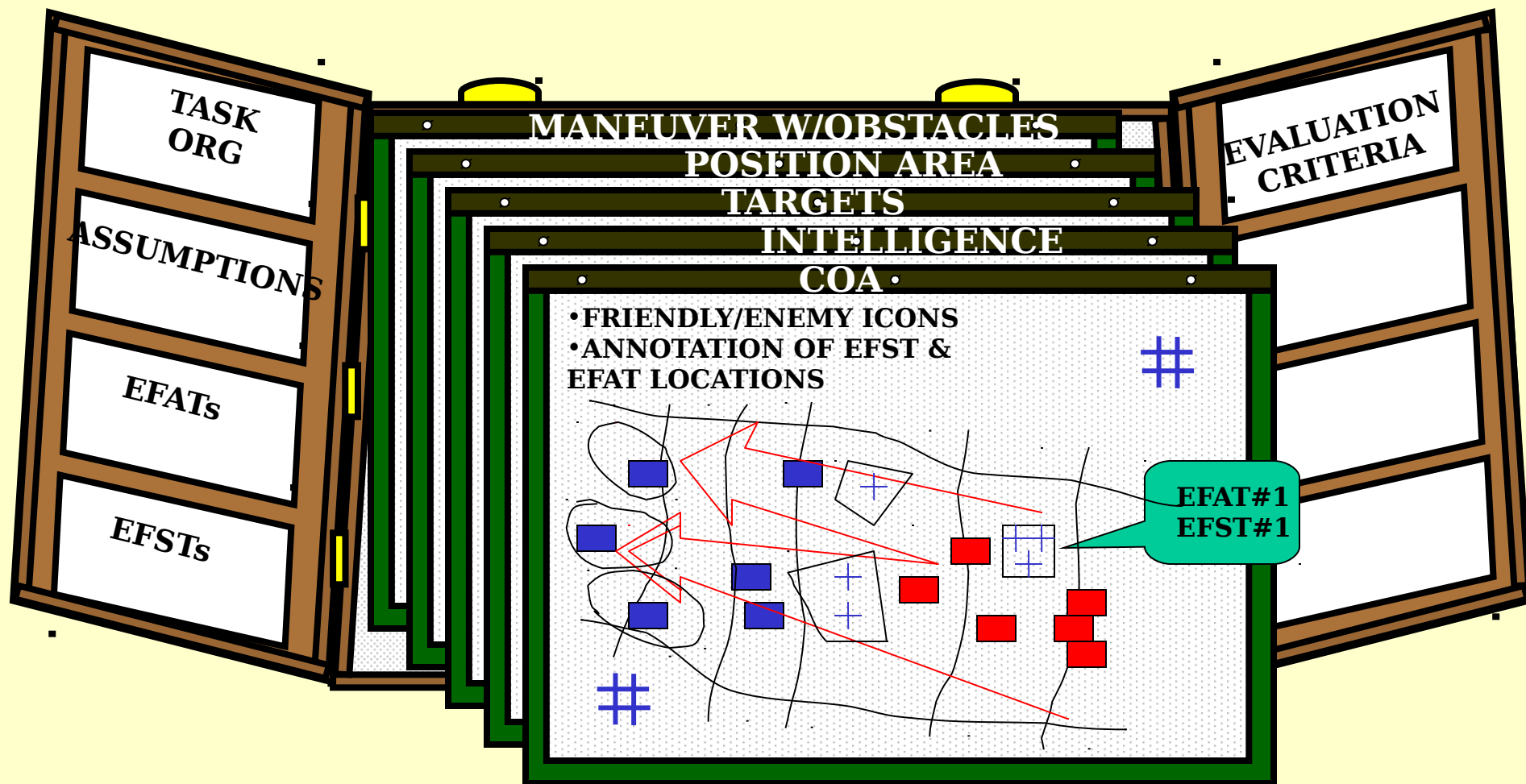
SYNCH
MATRIX



GATHER THE TOOLS



MAP BOARD SET-UP





ADDITIONAL STEPS



STEP 2 - LIST ALL FRIENDLY FORCES

CHART

STEP 3 - LIST ASSUMPTIONS

CHART

STEP 4 - LIST EFSTs AND EFATs

CHART

W/EFAT

CHECKLIST

STEP 5 - DETERMINE EVALUATION CRITERIA

CHART



ADDITIONAL STEPS



STEP 6 - SELECT THE WARGAME TECHNIQUE:

- 1. WARGAME USING THE BELT TECHNIQUE**
- 2. BY EACH EFST AND RELATED EFAT**
- 3. IN ORDER THROUGH THE SCHEME OF FIRES**



ADDITIONAL STEPS



STEP 7 - SELECT A RECORDING METHOD:

1. FA BATTALION SYNCHRONIZATION MATRIX



FA BATTALION SYNCH



MATRIX

PHASE/TIME				
ENEMY COA	EVENT			
	THREAT TO BTRY			
INTEL	NAI			
	TAI			
	COL			
MANEUVER	MISSION			
	SCHEME			
	PRI/FOCUS			
EFST				
EFAT				
FIREPLANS	NAME			
	TARGETS			
ALPHA	LOC/A OF			
	EFAT (TPME)			
	TGFS			
	MOVE/trigger			
	SPEC INSTRUCT			
BRAVO	LOC/A OF			
	EFAT (TPME)			
	TGFS			
	MOVE/trigger			
	SPEC INSTRUCT			
CHARLIE	LOC/A OF			
	EFAT (TPME)			
	TGFS			
	MOVE/trigger			
	SPEC INSTRUCT			
REINFORCING	LOC/A OF			
	EFAT (TPME)			
	TGFS			
	MOVE/trigger			
	SPEC INSTRUCT			
RADAR	LOC/A Z			
	ZONES			
	CUE GUIDANCE			
	ACCUM RAD			
	MOVE/trigger			
SURVEY	LOC			
	MISSION			
	PRI/FOCUS			
CSS	I			
	III			
	V			
	MAINT			
	MED			
C ²	CAT			
	FAT			
	TOC			
	CDR/ XO/ S3 LOC			
	RETRANS			



PREPARE THE FA SYNCH MATRIX



PHASE/TIME		
ENEMY COA	EVENT	
	THREAT TO BTRY	
INTEL	NAI	
	TAI	
	COL	
MANEUVER	MISSION	
	SCHEME	
	PRI/FOCUS	
EFST		
EFAT		
FIRE PLANS	NAME	
	TARGETS	



INDICATES AREA MAY BE FILLED OUT PRIOR TO WARGAME



PREPARE THE FA SYNCH MATRIX



ALPHA	LOC/A OF	
	EFAT (TPME)	
	TGTS	
	MOVE TRIGGER	
	SPEC INSTRUCT	
BRAVO	LOC/A OF	
	EFAT (TPME)	
	TGTS	
	MOVE TRIGGER	
	SPEC INSTRUCT	
CHARLIE	LOC/A OF	
	EFAT (TPME)	
	TGTS	
	MOVE TRIGGER	
	SPEC INSTRUCT	
REINFORCING	LOC/A OF	
	EFAT (TPME)	
	TGTS	
	MOVE TRIGGER	
	SPEC INSTRUCT	



INDICATES AREA MAY BE FILLED OUT PRIOR TO WARGAME



PREPARE THE FA SYNCH MATRIX



RADAR	LOC/AZ	
	ZONES	
	CUE GUIDANCE	
	ACCUM RAD	
	MOVE TRIGGER	
SURVEY	LOC	
	MISSION	
	PRI/FOCUS	
CSS	I	
	III	
	V	
	MAINT	
	MED	
	CAT	
	FAT	
C²	TOC	
	CDR/ XO / S3 LOC	
	RETRANS	
OTHER	SURV MOVE	
	CRITERIA	
	CHEM	
	ADA	
	MOB/CM/SURV	
DECISION PTS		
NOTES:		



INDICATES AREA MAY BE FILLED OUT PRIOR TO WARGAME



WARGAME SCRIPT



OFFENSIVE OPERATIONS

MANEUVER PHASE

A/S3

ACTION --->REACTION--->COUNTERACTION (FRIEND OR ENEMY)

MANEUVER

S3

ENEMY COA

S2

INTELLIGENCE

S2

EFST AND EFAT

S3

FIRE PLANS

FDO

FIRING ELEMENTS (BATTERIES & REINFORCING UNITS)

S3

RADAR

S2/TECH

SURVEY

RSO

CSS

BAO/S4

C2

CESO

OTHER (SURV MOVE CRITERIA, CHEM, ADA, ENG)

A/S3, CHEMO,

A/S3

DECISION POINTS

S3

REVIEW NOTES / ISSUES

RSO

ACTION - EVENTS INITIATED BY THE SIDE WITH THE INITIATIVE; NORMALLY THE OFFENSIVE FORCE

**REACTION - THE OTHER SIDE'S ACTIONS IN RESPONSE TO THE FIRST
COUNTERACTION - THE FIRST SIDE'S RESPONSE TO THE REACTION**



WARGAME SCRIPT



DEFENSIVE OPERATIONS

MANEUVER PHASE

A/S3

ACTION --->REACTION--->COUNTERACTION (FRIEND OR ENEMY)

ENEMY COA

S2

MANEUVER

S3

INTELLIGENCE

S2

EFST AND EFAT

S3

FIRE PLANS

FDO

FIRING ELEMENTS (BATTERIES & REINFORCING UNITS)

S3

RADAR

S2/TECH

SURVEY

RSO

CSS

BAO/S4

C2

CESO

OTHER (SURV MOVE CRITERIA, CHEM, ADA, ENG)

A/S3, CHEMO,

A/S3

DECISION POINTS

S3

REVIEW NOTES / ISSUES

RSO

ACTION - EVENTS INITIATED BY THE SIDE WITH THE INITIATIVE; NORMALLY THE OFFENSIVE FORCE

**REACTION - THE OTHER SIDE'S ACTIONS IN RESPONSE TO THE FIRST
COUNTERACTION - THE FIRST SIDE'S RESPONSE TO THE REACTION**



SYNCH MATRIX TECHNIQUE



PHASE/TIME		PHASE I / H-HR
ENEMY COA	EVENT	ACTION: LEAD MRB AT PL WILLOW CTRACTION: 2S19 BN MOVES; 2 TUBES DEST; LD MRB MOVING TOWARD FASCAM
1. WARGAME EACH EFAT AS EXECUTED IN THE SCHEME OF FIRES USING THE SYNCH MATRIX AS A GUIDE. 2. ENSURE THAT THE ENDSTATE IS ACHIEVED PRIOR TO MOVING TO THE NEXT. 3. IF TWO ARE MORE EFATs ARE CONDUCTED SIMULTANEOUSLY, WARGAME ALL CONCURRENTLY TO RESOLVE CONFLICTS. 4. WORK COMPLETELY DOWN THE MATRIX UNTIL COMPLETE WITH THAT EFAT. EACH STAFF MEMBER, SHOULD STATE THEIR ACTIONS AND/OR CONFLICTS IAW HIS CHECKLIST. 5. AT THE BOTTOM OF THE MATRIX, VERIFY, OR REVISIT, ANY ISSUES FOR RESOLUTION. 6. MOVE TO THE NEXT COLUMN AND/OR EFAT.		COUNTERFIRE
		1,3,5,6,9,10
		4,7
		COLT 1, 4, 5
		DEFEND IN SECTOR
		FASCAM - COLT 4 (PRI)/COLT 5(ALT) WHEN THE LEAD MRB CROSSES WILLOW
		FORCE PROTECTION - RADAR ON COMMAND CUE; BDE FSC; ACTIVATE CFZs 1,3,6
		SECURITY FORCE O/O 1-63 AR
		IRE FASCAM 400X400 MD ROVIDE FORCE PROTECTION
		EMPLACE FASCAM 400X400 MD / SD CONDUCT COUNTERFIRE
FIRE PLANS	NAME	NONE
	TARGETS	FASCAM - AE1001, 1002, 1003



CHECKLISTS



WARGAME CHECKLIST S3 SECTION

PREPARE FRIENDLY SITUATION

CURRENT UNIT LOCATIONS

CURRENT FRIENDLY GRAPHICS

IDENTIFY / RECORD KEY DECISION POINTS

**MAKE ADJUSTMENTS TO SELECTED COA(s) AS
NEEDED**

RECORD ISSUES / RFI / SYNCH MATRIX

IDENTIFY MOVEMENT TRIGGERS

ANTICIPATE RESUPPLY TRIGGERS

RECORD REQUESTS FOR ADDITIONAL SUPPORT



CHECKLISTS



WARGAME CHECKLIST

BN XO / S4

SYNCHRONIZE ALL CSS ASSETS

PERSONNEL:

REFINE CASUALTY ESTIMATE

VERIFY MEDEVAC ROUTES (CLEAN & DIRTY)

VERIFY BAS / AXP / EPW LOCATIONS

VERIFY ANTICIPATED REPLACEMENTS

LOGISTICS:

VERIFY CLASS III & RESUPPLY RESUPPLY TRIGGERS

DEVELOP LRP AND/OR R3SP LOCATIONS AND TIMES

DEVELOP ALOC MOVEMENT PLAN AND TRIGGER

MAINTENANCE:

VERIFY EVAC PLAN

VERIFY UMCP LOCATION / MOVEMENT PLAN /

TRIGGERS



CHECKLISTS



WARGAME CHECKLIST

BAO

SYNCHRONIZE CLASS V ASSETS

VERIFY AMMO PLAN

PLS LOCATIONS

CCLs

AMMO AT CAT / FAT

RESUPPLY TIMING

RESUPPLY TRIGGERS



CHECKLISTS



WARGAME CHECKLIST CESO

SYNCHRONIZE SIGNAL ASSETS

VERIFY TOC LOCATIONS (CURRENT AND PROPOSED)

VERIFY TOC MOVEMENT PLAN AND TRIGGER

VERIFY RETRANS PLAN AND LOCATION

SYNCHRONIZE SIGNAL PLAN



CHECKLISTS



WARGAME CHECKLIST

CHEMO

SYNCHRONIZE DECON ASSETS

VERIFY DECON SITES AND WATER LOCATION

VERIFY SANATOR LOCATION AND MAINT STATUS

SYNCHRONIZE DECON PLAN WITH OPERATIONS



CHECKLISTS



WARGAME CHECKLIST FDO

SYNCHRONIZE FIRE DIRECTION

**VERIFY BEST TACTICAL & TECHNICAL FD
PROCEDURES**

VERIFY SOLUTION FOR EACH TARGET

VERIFY AMMO REQUIREMENTS WITH THE BAO

VERIFY SHIFT TIMES

**VERIFY FIVE REQUIREMENTS FOR ACCURATE
PREDICTED FIRE**



CHECKLISTS



WARGAME CHECKLIST RSO

SYNCHRONIZE SURVEY SUPPORT

**VERIFY ALL SCP REQUIREMENTS AND RECOMMEND
PRIORITY**

VERIFY SCP LOCATIONS

VERIFY SURVEY PLAN

TIMES

LOCATIONS

UNIT

INSTRUCTIONS



EFAT CHECKLISTS



TASK - DESTROY MRP

PURPOSE. DENY ENEMY ABILITY TO MASS DIRECT AND INDIRECT FIRES AT THE BREECH SITE.

METHOD.

- * BN MASS FIRES ON TARGETS XA7777, XA7777, XA7777
- * BN FIRE ORDER: BN3 DPICM WR CHARGE/LOT; ____ METHOD OF CONTROL; ____
- * A BATTERY POSITION PZ ____ NLT ____
- * B BATTERY POSITION PZ ____ NLT ____
- * C BATTERY POSITION PZ ____ NLT ____
- * LIGHT BTRY POSITION PZ ____ NLT ____
- * TARGETS REFINED BY TF 1-52 NLT ____
- * XA7777 PRI OBS/LOC; ____
- * XA7777 TRIGGER; ____
- * XA7777 PRI OBS/LOC; ____
- * XA7777 TRIGGER; ____
- * XA7777 PRI OBS/LOC; ____
- * XA7777 TRIGGER; ____
- * Q36 LOCATED VIC GRID: ____; CFZ1 (SPT BY FIRE PSN I/E); CFZ2 (BREECH) I/E O/O ACTIVIED BY TF1-52 FSO
- * NFA (BREECH) ACTIVATED GRID ____ RADIUS ____
- * MET SCHEDULE
- * SURVEY PRIORITIES
- * SURVIVABILITY CRITERIA ____
- * CL V RESUPPLY TRIGGER ____
- * O/O OR UPON COMPLETION OF ENDSTATE BN DISPLACES FORWARD TO RANGE PL ____
- * A, B, C, D BATTERY DISPLACE TO PZ ____ ON ROUTE ____

EFFECTS. 2 VEHICLES IN EACH MRP DEST AT PT OF

PENETRATION; TOTAL 5 VECHICLES DESTROYED



EFAT CHECKLISTS



TASK. EMPLACE 400X400M FASCAM MF

PURPOSE. DELAY ECHLONED ENEMY FORCES PREVENTING THEM FROM MASSING AGAINST OUR MAIN EFFORT.

METHOD.

- EMPLACE FASCAM MF 400X400 MINEFIELD BY BTRY
 - DETERMINE # OF AIMPTS FOR RAAM AND ADAM
 - ENSURE RAAM IS FIRED BEFORE ADAM. RAAM IS FIRED WHEN READY (WR), ADAM IS FIRED AT MY COMMAND (AMC)
 - MINEFIELD REQUIRES 96 RDS RAAM AND 12 RDS ADAM.
 - BATTERY IPRTF NLT ____ @ PA ____.
 - PUSH CCL OF FASCAM FORWARD TO ____ BATTERY ASAP PRIOR TO EXECUTION.
 - PREPOSITION FASCAM ON THE GROUND (PRIMARY POS PA__)
 - ENSURE MET IS VALID WHEN FASCAM IS SCHEDULED.
 - REHEARSE ALT BTRY SHOOTER; PUSH CCL OF FASCAM TO ALT BTRY.
 - EXECUTE TGT # ____ FROM PRI POS WITH PRI SHOOTER, ALT SHOOTER IS READY TO EXECUTE.
 - MINIMIZE EXPOSED PERSONNEL AND EQUIPMENT. POSITION POC IN ALT POSITION WITH REMAINDER OF THE BTRY.
 - ____ BTRY UPON SUCCESSFUL COMPLETION OF TARGET # ____ IMMEDIATELY DISPLACES TO ALT POSITION PA ____ . REHEARSE THIS MOVEMENT.
 - ALT SHOOTER FOLLOWS PRI SHOOTER'S EXECUTION OF MISSION, BE PREPARED TO EXECUTE THE TGT.
 - TRIGGER TO EXECUTE TGT # ____ (FASCAM) IS @ NAI ____ TENTATIVE WINDOW FOR PLANNING PURPOSES IS ____.
- EFFECTS.** MINEFIELD COMPLETE IN LESS THAN 20 MINUTES, ____ BATTERY EXECUTES THEN MOVES TO ALT POSITION. REESTABLISHES FIRING CAPABILITY.



EFAT CHECKLISTS



TASK. PROVIDE COUNTERFIRE

PURPOSE. DISRUPT ENEMY INDIRECT FIRE ASSETS PROVIDING FREEDOM OF MANEUVER AND FORCE PROTECTION.

METHOD.

- DESIGNATE PRI AND ALT FIRING UNITS TO FIRE COUNTERFIRE.
- PUSH CCL OF LONG RANGE MUNITIONS TO THE DESIGNATED CF SHOOTERS
- REHEARSE CF DRILL AND MISSION PROCESSING FROM THE RADAR TO THE GUNS
- PLACE CFFZ's ON TEMPLATED RAG / MORTAR LOCATIONS
- DEVELOP CUEING SCHEDULE CONSISTENT WITH THE ENEMY PHASES OF FIRE
- REHEARSE PROCESSING REQUESTS FOR ADDITIONAL FIRES (CFF;X)
- IF THE REINFORCING UNIT IS AVAILABLE; DESIGNATE AS THE CF HEADQUARTERS.
- ESTABLISH CFZ ON FIRING UNITS DESIGNATED AS THE COUNTERFIRE SHOOTERS
- CONDUCT MPI REGISTRATION FOR HER AND HEM TO DETERMINE MV DATA

EFFECTS. # OF TUBES DESTROYED



EFAT CHECKLISTS



TASK. PROVIDE SCREENING AND OBSCURATION SMOKE

PURPOSE. LIMIT ENEMY OBSERVATION OF FRIENDLY FORCES PROVIDING FREEDOM OF MANEUVER.

METHOD.

- COMPUTE BATTLEFIELD CALCULUS, DETERMINE SIZE AND DURATION OF SMOKE MODULES AVAILABLE.
- PUSH CCL OF SMOKE MUNITIONS TO THE PRI AND ALT FIRING UNITS DESIGNATED AS SMOKE SHOOTERS.
- INCREASE TURRET LOAD OF SMOKE MUNITIONS FOR UNITS FIRING SMOKE.
- DETERMINE THE EFFECTS OF TIME AND WEATHER AND PLAN ACCORDINGLY.
- COMPUTE TECHNICAL SOLUTION.
- DETERMINE NUMBER OF TUBES REQUIRED TO BUILD / SUSTAIN THE SMOKE SCREEN AND FIRING INTERVAL.
- VERIFY SHELL FUZE COMBINATION, M825 REQUIRES M577 FUZES.

EFFECTS. SMOKE IS EFFECTIVE, ENEMY IS UNABLE TO OBSERVE FRIENDLY FORCES.



EFAT CHECKLISTS



TASK. FIRE COPPERHEAD

PURPOSE. DISRUPT ENEMY FORCES, DESTROYING HIGH PAYOFF TARGETS.

METHOD.

- DETERMINE NUMBER OF COPPERHEAD (CPHD) ROUNDS NECESSARY TO ATTACK THE TARGET, IAW FM 6-40, PREPARE TO BACK-UP WITH A BATTALION 4 RDS DPICM.
- BATTERIES IPRT NLT ____, APPROPRIATE # OF CPHD DELIVERED TO ____ BATTERY.
- BATTERIES SELECT CPHD FIRING SECTIONS, CONDUCT REHEARSALS, USING THE CPHD TRAINER.
- POCs CONDUCT BCS TO BCS VERIFICATION OF FIRING DATA NLT ____.
- POC LINK-UP WITH DESIGNATED OBSERVERS, CONDUCT REHEARSALS, VERIFY LOCATION OF THE OBSERVERS AND THE ANGLE T (<800MILS) AND THE PRF CODE.
- BOTH BATTERIES HAVE THE DESIGNATED PRI AND ALT OBSERVERS, WHO CAN EXECUTE THE MISSION. REHEARSE THE MISSION FROM THE OBSERVERS TO THE GUNS, NLT ____.
- BN PREPARES FOR TGT WITH TGT# ____ (CPHD) @ ____ TRIGGER, BATTALION CANCELS DNL (DPICM), SPECIAL INSTRUCTIONS AMC.
- BTRY EXECUTES TGT# ____ AMC CPHD AT THE APPROPRIATE TRIGGER
- BN EXECUTES TGT# (DPICM) AMC, EXECUTES (x - SECONDS TOF - CPHD).
- TRIGGER TO EXECUTE CPHS IS ____, TRIGGER TO EXECUTE DPICM IS CPHD - TOF.

EFFECTS. # OF HIGH PAYOFF TGTs DESTROYED.



THREAT CAPABILITIES



OPFOR ARTILLERY SYSTEMS

SYSTEM	CALIBER	EMPL / DISPL TIME	FIRE MSN TIME STD	TYPE	MAX RANGE	RANGE w/ RAP	MAX RPM	SUST RPM	Rnds on Board	ECHOLON	REMARKS
2S1	122	*8-10	*2:50	SP-H	15,300	21,900		5-8	40	REGT	Note 3,4
2S3	152	*8-10	*2:50	SP-G	18,500	24,000	4		40	DIV	
2S19	152	*8-10	*1:15-2	SP-G/H	24,700	35,000	8		30	ARMY	MSTA-S
2S5	152	*8-10	*2:50	SP-G	28,500	40,000	5-6			ARMY	
2A36	152	*8-10	*2:50	T-G	27,000	40,000	6			ARMY	Note 5
2A65	152	*8-10	*2:50	T-G	30,000	40,000	7			ARMY	MSTA-B, Tow ed 2S19
2S7	203	*8-10	*2:50	SP-G	37,500	50,000	2			FRONT+	
2S9 (BMD)	120	:30/:30		SP-M/H	8,000	N/A	6-8			ABN REGT	Note 1
2S23 (BTR-80)	120			SP-M/H	8,000		6-8				Note 1
2B9	82			T-M	5,000	N/A	40-60				Some SP on MT-LB
2B11/2S12	120			T-M	7,200	N/A		10			Replaces M1937/M1943
2B16	120			T-M/H	8,000	N/A		6-8			Note 1,2
M240	240	25		T-M	9,700	N/A		1			25 min Emplacement
2S4	240			SP-M	9,700	20,000		1			M1975
BM-21	122	*22/13	*8	MRL	20,380	30,000	40			DIV	Note 6, 8-10 min reload
BM-21V	122	*22/13	*8	MRL	20,380	30,000	12			ABN DIV	8-10 min reload
BM-22	220	*22/13	*8	MRL	40,000	N/A	16			ARMY +	20 min reload (M1977)
9A52, BM-30	300	*15-20	*6	MRL	70,000	N/A	12			FRONT+	20 km min Rg
FROG-7	FROG			SSM	70,000	N/A					15-30 min prep CEP=5-700
SS-1C	SCUD			SSM	300,000	N/A					CEP=160
SS-21	SCARAB			SSM	100,000	N/A					
SS-23	SPIDER			SSM	500,000	N/A					
MT-12	100			AT-G		N/A				REGT	
2A45	125			AT-G	3,000	N/A				REGT	



OBSOLETE SYSTEMS:											
SYSTEM	CALIBER	EMPL / DISPL TIME	FIRE MSN TIME STD	TYPE	RANGE	RG w/ RAP	MAX RPM	SUST RPM	Rnds on Board	ECHOLON	REMARKS
D-20	152	* 17-19	* 3:05	T-H	17,200	24,000				DIV +	
D-30	122	* 17-19	* 3:05	T-H	15,300	21,900				REGT+	Note 1,2
D-44	85	* 17-19	* 3:05	T-FLD G	15,600					ABN AT BN	
D-46	85	* 17-19	* 3:05	T-FLD G	19,000					AT BN/REGT	
D-74	122	* 17-19	* 3:05	T-G	23,900					ARMY	
M-1944	100	* 17-19	* 3:05	T-FLD G	21,000					AT BN/REGT	
M-46	130	* 17-19	* 3:05	T-FLD G	27,490						Note 1,2 - CF w pn
Note 1 - Can be used for direct fire/anti-tank											
Note 2 - Can mount active IR & passive sites for DF											
Note 3 - Maximum of 70 rounds in the first hour											
Note 4 - 40 rounds on-board=32 HE, 6 smk, 2 HEAT-FS (16 in ready rack)											
Note 5 - Ammo may not be compatible with the 2S3 152mm ammunition											
Note 6 - Setup 23/32 (day/night), displace 11/14											
* Interpretation based on like U.S. systems											



PREDICTIVE ANALYSIS



OPFOR Counterfire Delivery System Time

$$\begin{array}{l} \text{OPFOR} \\ \text{SFO} \\ (\# \text{ VOLS}) \end{array} + \begin{array}{l} \text{DISPLACEMENT} \\ \text{TIME} \\ (\text{SYSTEM TYPE}) \end{array} = \text{TOTAL TIME TO FIRE}$$

OPFOR PHASE OF FIRE

Example:

6 min (BN 6) + 10 min (2S1) = 16 min

Min Engagement Time for Max BDA IAW Tables
(Assumption that Enemy moves with each FM)

BLUEFOR Counterfire Total Attack Capability

ZONE VIOLATION OR CF BATTLE DRILL

$$\begin{array}{l} \text{RADAR} \\ \text{ACQ TIME} \end{array} + \begin{array}{l} \text{DS BN TOC} \\ \text{PROCESS} \\ \text{TIME} \end{array} + \begin{array}{l} \text{FIRE MSN} \\ \text{TIME} \end{array} + \text{TOF} + \# \text{ VOLS} = \text{TOTAL TIME}$$

Example:

2 + 1:30 + 2:15 + :45 + 3 = 9:30

Standard Attack Time / No Shift / Cannon



PREDICTIVE ANALYSIS



BLUEFOR Counterfire Effects Matrix (Artillery)

AMMO	FIRE ORDER	TOT RDS	MAX TUBES DEST	TUBES REMAIN 1 BN	NEUT 10% - # OF VOLS	DEST 30% - # OF VOLS	DEST 50% - # OF VOLS
M109							
HEF	BN1	18	1	17	2	6	9
	BN2	36	1	17	2	6	9
	BN3	48	1	17	2	6	9
	BN4	72	2	16	1	3	5
	BN5	90	3	15	1	2	3
	BN6	108	4	14	1	2	2
HEA	BN1	18	0	18	N/A	N/A	N/A
	BN2	36	0	18	N/A	N/A	N/A
	BN3	48	0	18	N/A	N/A	N/A
	BN4	72	1	17	2	6	9
	BN5	90	1	17	2	6	9
	BN6	108	1	17	2	6	9
MLRS							
HEF	1 RKT	1	0	18	N/A	N/A	N/A
	2 RKIS	2	0	18	N/A	N/A	N/A
	3 RKIS	3	1	17	2	6	9
	4 RKIS	4	1	17	2	6	9
	5 RKIS	5	2	16	1	3	5
	6 RKIS	6	2	16	1	3	5

Examples Only - Not J-MEMS Data



SURVIVABILITY CRITERIA



How to Compute? A Method.

Definition:

Survivability Criteria - Those factors, both enemy and friendly, that when combined give Battalion and Battery Commander's guidance with regard to maintaining firing capability and conducting survivability moves during sustained combat operations. This criteria should be adjusted with each phase of the operation based on changing enemy threat, movement guidance, friendly artillery system, and enemy degradation. Normally expressed as Time From 1st Round Fired / Number of Volleys / Time in Position (Minutes).

Example: 10 / 20 / 60

Examples Only - Not Doctrine



SURVIVABILITY CRITERIA



How to Compute? A Method.

Definitions/Factors:

Enemy Target Acquisition Threat - The enemy's ability to bring effective and timely indirect fires onto friendly artillery. Includes: Phase of Fire, Enemy Acquisition Assets (Radar, HUMINT). High, Medium, Low.

Movement Guidance - Derived using the Scheme of Fires. When wargamed properly, gives the DS Bn S3 windows of opportunity to conduct survivability moves. It also indicates the times when firing batteries will be least likely able to conduct movement. Not Flexible, Flexible, Extremely Flexible.

Bluefor System - The Bluefor system employed and its ability to survive during sustained combat operations. Shoot/Scoot, SP, TOWed

OPFOR Degradation - An assessment of our ability to affect the OPFOR fires delivery system process. Accomplished either through attack of IFFTs and/or OPFOR artillery. As the battle progresses, OPFOR artillery should decrease based on

Examples Only - Not Doctrine



SURVIVABILITY CRITERIA



How to Compute? A Method.

Assessment Matrix

Enemy TA Ability	Movement Guidance	BLUEFOR System	OPFOR Degradation
High - 3	Not Flexible - 3	TOWed - 3	Low - 3
Med - 2	Flexible - 2	SP - 2	Med - 2
Low - 1	Extremely Flexible - 1	Shoot/Scoot - 1	High - 1

Examples Only - Not Doctrine



SURVIVABILITY CRITERIA



How to Compute? A Method.

Once the assessment is made utilizing the matrix, the S3 is able to apply factors and determine survivability criteria.

Assessment Definitions:

High (10-12) Criteria: ≥ 10 / ≤ 15 / ≤ 15 .

Medium (7-9) Criteria: 10-15 / 16-25 / 16-30.

Low (3-6) Criteria: > 15 / > 25 / > 30 .

Examples Only - Not Doctrine



SURVIVABILITY CRITERIA



How to Compute? A Method.

Assessment Matrix

Enemy CF Threat	Movement Guidance	BLUEFOR System	OPFOR Degradation
High - 3	Not Flexible - 3	TOWed - 3	Low - 3
Med - 2	Flexible - 2	SP - 2	Med - 2
Low - 1	Extremely Flexible - 1	Shoot/Scout - 1	High - 1

Assessment Friendly Maneuver Phase II = 7 (Medium)

Friendly Maneuver Phase II Surv Criteria
11 / 18 / 25

Examples Only - Not Doctrine



ARTILLERY FORCE RATIOS



US SYSTEMS	RATIO	THREAT SYSTEMS	RATIO
M119	0.55	D30	0.60
M198	1.05	2S1	0.80
M109A3	1.15	M46	0.70
M109A5	1.25	D20	0.75
M110A2	1.30	2S3	1.10
M109A6	1.50	2S19	1.25
		2A65	0.80
		2S5	1.20
		2A36	1.00
		2S7	1.40
		2S4	0.70
		2S9	0.66
MLRS BTRY	1.10	BM-21 BN	2.20
MLRS BN	3.30	BM-22 BN	2.90
		9A52 BN	3.50